PHD: CIFRE (IS2M-Faurecia)

Title: Photochromic technologies for thermoplastics in injection process

Contexte:

Faurecia is one of the world's leading automobile suppliers specialized in 3 business groups: vehicle seating, interiors, front ends & emission control. The business group Faurecia Interior Systems (FIS) owns a large portfolio of products & technologies, from Value to Premium segments with 5 complementary Product Lines (Instrument Panel, Door Panel, Center Console, and Acoustics & Soft Trim & Decoration). FIS is an engineering led company with a strong focus on innovation.

IS2M: The Institute of Materials Science of Mulhouse, IS2M-UMR7361 is a research laboratory belonging to both the CNRS and the University of Haut Alsace, UHA, located in the heart of the its campus. It is a multidisciplinary laboratory gathering some 200 scientists, teachers, technicians and administration staff. IS2M conducts research of excellence in materials science in the fields of chemistry and physic of surfaces and interfaces as well as in porous materials. IS2M's scientific activity covers a wide domain of not only fundamental but also applied research, ranging from the conception and the optimisation of materials and nano-materials (polymers, carbons, ceramics, oxides, semi-conductors, biomaterials…) to their industrial valorisation.

The student position offers the opportunity to focus on photochromic technologies associated to the decoration parts for interior automotive:

- Understanding of the behavior of photochroms in polymers (thermal stability, photochemical activation…)
- Complete study based on standard material as thermoplastic for injection process used in interior automotive.
- Full material and process validation based on standard product application in interior automotive especially decorative parts with lighting functions.

Purpose and Main Responsibilities:

- Full characterization of the behavior of photochroms in polymers (thermal stability, photochemical activation…)
- Synthesis of photochroms if not commercially available
- Self-dependent development of new and improved processes, materials, designs and products for the use in automotive interior.
- Project management of innovation projects within the Faurecia Interior System Innovation guideline.
- Studies to assess the technical feasibility of innovative concepts and ideas. Analysis & evaluation of the results.
- Define technical project targets together with the Innovation Project Leader (IPL).
- Build Innovation Validation plans based on functional analysis, FMEA, conception studies and risk analysis. Elaborate Validation data and evaluate results according to ISPG Innovation process.
- Documentation of results in form of reports, presentations, drawings, samples for presentation, Bills of Material (BoM). Presentation of results in Monthly Innovation Committees (MIC).
- Assure patent protection of innovative solutions in close co-operation with the intellectual assets department.
- Co-operation Global Standard & Technology (GTS) engineering department to communicate and assure good transfer of innovation projects into serial development.
- Initiate Non-Disclosure Agreement (NDA) & co-operation with external development partners and suppliers. Guidance of suppliers of innovation projects.
- Co-operation with ISPG Innovation departments in Hagenbach (France), Méru (France) as relevant.

Qualifications:

The ideal candidate should be/have:

- Degree Master, ideally in plastic material especially polymer and photochromic technologies with optical good bases and potentially an automotive engineering experience in design, development and/or pre-development within an industrial environment, especially in the automotive industry will be a bonus
- Team Player with excellent communication skills at all levels
- International mind-set.
- Ideally bi-lingual in English & German, French would be a bonus.

Contact:

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